

DSM Spotlight

The Newsletter of the International Energy Agency Demand-Side Management Programme August 2004



New Strategic Plan Responds to Changes in the Energy Market

Why a New Plan?

When the IEA DSM Programme began approximately a decade ago, a relatively small number of large publicly- and investor-owned utilities dominated the scene. Promoting greater energy efficiency and demand side management was generally the responsibility of the regulators, while implementation was, to a large extent, up to these vertically-integrated monopolistic utilities.

Then along came deregulation and liberalisation of the market, which significantly changed the energy sector in IEA member countries, bringing in new and varied market-players and altering the role of existing utilities. In many countries, the market structure is still in transition, and it will take some time for things to fully sort themselves out. But it's clear that, with this fragmentation of the market, the job of the DSM Programme has become a lot more challenging.

At the same time, new forces have entered the picture which could mean a greater role for DSM and energy efficiency. For example, there is growing pressure to ensure more reliable transmission of energy and

security of supply. And an increasingly important factor is the concern over climate change, which has pushed DSM and EE higher up the political agenda.

In the context of these changes, it became clear that the Programme needed to rethink its objectives and approach in order to remain relevant. A new strategic plan was therefore developed to guide IEA DSM work over the next five years. Some elements of the plan, which was approved at the Executive Committee's April 2004 meeting, are highlighted below.

A Revitalized Programme

The new vision for the Programme states that demand side activities should not be an afterthought, but rather that they should be the first action taken in all energy policy decisions. In this way, energy systems will become more reliable and sustainable. The mission has changed as well to reflect the importance of reaching the key stakeholders and providing them with the tools to utilize DSM effectively.

The Programme's efforts are to be particularly focused on two target groups: *governments/regulators* and *energy businesses*. For governments (local, regional and national) and regulators in participating countries, the major goal is to undertake activities which will enhance their ability to develop policies and programmes for more effective use of DSM and energy efficient products and practices.

For energy businesses (including system operators, transmission and distribution companies, brokers, wholesalers, utilities and their associations, and suppliers of "enabling hardware and software technologies"), the DSM Programme aims to provide

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IEA DSM VISION

Demand side activities should be active elements and the first choice in all energy policy decisions designed to create more reliable and more sustainable energy systems.

(An energy system with a reduced demand allows for greater use of renewable energy; these two measures should be promoted as a way to achieve a sustainable energy supply.)

PARTICIPATING COUNTRIES

Australia

Austria

Belgium

Canada

Denmark

European
Commission

Finland

France

Greece

Italy

Japan

Korea

Netherlands

Norway

Spain

Sweden

United Kingdom

United States

IX New Reports Provide Energy Efficiency Guidance to Local Government

Many municipalities are supportive of energy efficiency measures, and others might be inclined to undertake such projects, but the current energy market environment presents a number of challenges. IEA DSM Task IX, Municipalities and Energy Efficiency in a Liberalised System, was established to determine how the effectiveness of municipalities' energy efficiency (and sustainable energy) activities could be improved in the context of liberalization of the energy market and utility sector.

Local authorities have the potential to carry out energy efficiency activities in several capacities: (1) as energy consumers in their own building stock and equipment, (2) as awareness-raisers and promoters of energy efficiency, and (3) in some cases, as producers and distributors of energy. Two recently-published reports by Task IX provide local officials with ideas and guidance to enable them to implement effective energy efficiency policies and measures.

Case Studies of Best Practice on Local Authority Responses to Liberalisation contains thirty-two examples of successful energy efficiency and sustainable energy policies and projects enacted by local authorities. These case studies were drawn from the participating countries, Austria, France, the Netherlands, Spain, and Sweden, as well as from Belgium, Canada, Finland, Germany, Switzerland, the U.K. and the U.S. It is hoped that these studies will serve as models for other local authorities wishing to implement energy efficiency activities in the environment of liberalization.

One example presented in the case studies involved the city of Jyvaskyla, Finland, which restructured its energy services in preparation for liberalization, taking back in hand the public

lighting stock formerly managed directly by the utility company. Within four years, it had replaced three-quarters of the street lights with more efficient ones, resulting in a considerable

savings in the city's electricity bill.

Two other case studies describe how the energy agencies of Berlin, Germany and Graz, Austria issued calls for tender for energy performance contracts for pools of buildings. This aggregation produced better economies-of-scale and lower costs which meant that energy efficiency measures were more affordable and could be applied to a larger number of buildings. This principle has been taken to its ultimate conclusion in Peterborough, Canada where an entire town is to be upgraded using energy performance contracts.

Guidelines for Local Authorities in Responding to Liberalisation of the Energy Markets is a short handbook which is designed to help local authorities and governments think about energy efficiency and enact effective policies and projects. The action guide includes an examination of key issues surround the role of local authorities and a series of recommendations evolving, in part, from the best practice case studies.

It was felt that the text of the report had to be brief and the recommendations kept simple and clear to increase the likelihood that it would be read by busy local officials. The message was further distilled into twelve key lessons, with references to relevant case studies. Three examples of those lessons are:

- The concession can be a key tool for implementing sustainable energy policy if conditions are attached to the concession requiring such measures.
- Economies-of-scale work well in a liberalized market. There are many examples which demonstrated the value of aggregating demand to obtain a good deal as a client.
- Effective energy efficiency programmes and policies require a long-term commitment, free—insofar as possible—from the swings of the political cycle.



Energy efficient lamps in Jyvaskyla



Energy performance of many buildings in Graz upgraded by local authorities.

XIII

Work on Demand Response Gathers Pace

Demand response has had its ups and downs in the electricity market, especially in the new environment of liberalization and deregulation, but the recently-initiated Task XIII on Demand Response Resources (DRR) aims to create new appreciation for this valuable tool and enable its effective implementation.

Demand response refers to the ability to change the shape of the load during times of peak electricity demand, supply problems, grid problems, or price fluctuations. By providing financial incentives to customers who have the flexibility to significantly reduce or shift their energy load with short notice, utilities and energy companies can shave peaks and achieve greater system stability, efficiency and reliability.

"The electricity blackouts that occurred last year in the US, Italy, Sweden, and elsewhere were a wake-up call that we need customer demand response participation in every electricity market in the world," says Ross Malme, who serves as Task XIII Operating Agent on

behalf of the U.S. Department of Energy. "DRR is critical to ensure reliability in our electricity markets and to mitigate high prices during times of scarce supply."

The objective of this new DRR project is to deliver the necessary methodology, business processes, infrastructure, tools and implementation plans to enable the rapid deployment of demand response into the electricity markets of each participating country. It will then be up to each country to determine how best to implement demand response.

A total of ten countries have joined so far: Australia, Denmark, Finland, Italy, Japan, Korea, Norway, Spain, Sweden, and the United States. Several other IEA member and non-member countries are considering participation including Canada, China, Mexico, Netherlands, New Zealand, Thailand, and the UK.

Given widespread concerns about growing electricity demand, fuel supply and cost issues, and environmental challenges, representatives of many

participating countries are expressing enthusiasm for the Task and the expected results.

For example, Carmen Rodriguez Villagarcia of Red Electrica de Espana stated, "We expect the DRR Project will significantly reduce uncertainty of medium and long term electric capacity sufficiency and enhance overall system reliability."

Harry Schaap, of the Electricity Supply Association of Australia, echoed this belief in the importance of Task XIII. "The Australian electricity market faces many of the same problems as the US, Asia and Europe in heavily congested distribution systems threatening the security of our grid. DRR is a valuable tool for dealing with such problems."

For more information Visit the Task XIII Internet Portal at www.demandresponseresources.com or contact the Operating Agent, Ross Malme, at malme@retx.com, Tel: +1- 770-390-8500.

Task IX *continued from page 2*

Information on the case studies and the guidelines are available on the Task IX website (see below). In addition, hard copies of the reports will be distributed to local authorities, regional and national administrative bodies, and relevant NGO's. Participating countries were also encouraged to hold national seminars to present key information to their governments and municipalities. At the recent conclusion of Task IX, the Executive Committee expressed its sincere appreciation to the Operating Agent, Dr. Martin Cahn of Energie-Cites, for his leadership and for the impressive results of this project.

For more information: See the Task IX website: www.energie-cites.org/meels/ or contact Dr. Martin Cahn, Energie-Cites, Tel: +48-12-272 2850, e-mail: martin@tf.com.pl



http://dsm.iea.org

Visit the IEA DSM web site for more information on Programme activities, publications and contact names.

IN BRIEF

Task Initiated on White Certificates

The concept of White Certificates involves the award, by independent certifying bodies, of certificates confirming claims of energy savings as a result of energy efficiency measures. The newly-initiated Task XIV will assess the use of White Certificates as a policy tool for promotion of energy efficiency projects, and hence, energy savings. Participants will examine how to create demand for such a mechanism, interaction with other trading schemes (such as green and black certificates), criteria for EE project design and development, valuation issues, monitoring and compliance mechanisms, responsible organisations, and other related issues. So far, France, Italy, Norway, Sweden, and the United Kingdom have agreed to participate in this Task. Antonio Capozza, CESI, Milan, Italy serves as Operating Agent.

For more information, contact: Antonio Capozza, capozza@cesi.it

Network Constraints Subject of DSM Task

Task XV: Network-Driven DSM is a newly-approved project which focuses specifically on problems in electricity networks. It covers a broad range of DSM measures which can be directed to relieving network constraints, including energy efficiency, interruptibility, fuel switching and distributed generation. These constraints may be time-related (e.g., loads at times of the network system peak) or location-related (e.g., loads on particular circuits or substations). The Network DSM project will concentrate on identifying the most appropriate DSM measures to overcome the types of network problems which have been linked to the blackouts seen last year in the USA and Europe. Participation is expected to involve Australia, France, Spain and the USA, and possibly other European countries. David Crossley, Managing Director of Energy Futures Australia Pty Ltd, is the Operating Agent.

For more information, contact: David Crossley, crossley@efa.com.au

UP CLOSE AND PERSONAL Ross Malme



Ross Malme has plunged into his role as the Task XIII Operating Agent with great energy and enthusiasm. But that's not surprising when you learn that he's a multi-faceted person whose profession-

all life and outside interests reveal business, technical, musical, athletic--and even agrarian--talents as well as an abundance of energy.

Ross was born and raised in northwest Minnesota where his family settled around 1860. Like many other Norwegian immigrants to the US, they cleverly settled in an area where they could be as cold and uncomfortable as in the "old country."

He remembers working with his father on the family farm from the time he was old enough to see over the steering wheel of the tractor. "My father instilled in me a strong work ethic as well as a streak of independence, which some label stubbornness!" he recalls. He still manages the 1100 acre farm (but he and his wife Jeanne wisely live way down south in Atlanta, Georgia).

Ross received a B.S. in Chemical Engineering from the University of Minnesota and remains a strong fan of the school's athletic teams. He also holds an MBA from the College of St. Thomas.

He is currently President and CEO of RETX, a demand response technology company which he founded in 1999. Prior to starting RETX, he held executive management positions with several major energy and energy technology companies. He was a pioneer in the development of automated meter reading technology and created a new wireless automatic meter

reading system which was awarded the prize for "Most Innovative New Product of 1986" by the National Communications Forum.

In addition to running RETX, Ross is Chairman of the Peak Load Management Alliance (PLMA), a trade association of energy companies, consultants and vendors dedicated to bringing Demand Response Resources into U.S. electric markets.

Ross also enjoys expressing his artistic side as a member of the William Baker Festival Singers, an a cappella chorus with a classical, folk and gospel repertoire. As an avid runner and cyclist, he tries to enter at least one triathlon a year, and runs in Atlanta's Annual Peachtree Road Race where he competes with over 50,000 other runners.

It's clear that, with Ross Malme's energy, expertise and determination, Task XIII will undoubtedly achieve its ambitious goals.

the information and tools necessary to create new cost-effective products and services in response to domestic and global opportunities.

To increase the likelihood that all the key players in the new liberalised energy sector will be effectively involved, each participating country is being encouraged to form a national IEA/DSM stakeholder group. These groups are to be comprised of representatives from utilities, regulatory bodies, system operators, industry and trade associations, universities and research bodies, national/regional/local administrations, consumer groups, and larger customers, and others.

Stakeholder group members will provide input to the Programme and assist in dissemination of Task results. They will also provide an important perspective on public sector, private sector and customer priorities which can be useful in planning and assessing appropriateness of the IEA DSM work and products.

Structure

The new strategic plan structures the IEA DSM work into two clusters, depending on the potential impact on the energy load curve. This classification system will help ensure that new work builds on previous experience and results and that the Tasks in each cluster are better coordinated.

The Load Shape Cluster encompasses Tasks that seek to impact the shape of the load curve during times of peak electricity demand, supply problems, grid problems, or price fluctuations. Work in this cluster seeks to enable customers to significantly reduce or shift their energy load on short notice, so that utilities and energy companies can shave peaks and achieve greater system stability, efficiency and reliability. Load shaping activi-

IEA DSM MISSION

To deliver to its stakeholders materials that can be readily applied for crafting and implementing policies and measures. The Programme should also deliver technology and applications that either facilitate operation of energy systems or facilitate necessary market transformations.

ties should be of interest to all stakeholders in the energy market. Task XIII: Demand Response Resources is a new example of a Load Shape Task.

The Load Level Cluster includes Tasks that seek to shift the load curve permanently to lower demand levels through energy efficiency measures or products, or by shifting loads from one energy system to another (fuel switching). Work within this cluster primarily aims at the reduction of greenhouse gas emissions, energy savings, and increased energy security. Therefore, the primary stakeholders are governments, local authorities, and society as a whole. Task IX: Role of Municipalities in a Liberalised System and Task XIV: Market Mechanisms for White Certificate Trading are examples of Load Level Tasks.

With its new strategic plan, the IEA DSM Programme has re-positioned itself to be relevant and effective in the evolving energy sector. Full details can be found in the 2003 Annual Report, available on the DSM website at <http://dsm.iea.org>.

The DSM Spotlight is published several times a year to keep readers abreast of recent results of the IEA Demand-Side Management Programme and of related DSM issues. The viewpoints or policies expressed in this newsletter do not necessarily reflect those of the International Energy Agency, the IEA Demand-Side Management Programme member countries, or the participating researchers.

For more information on the Programme, its work and contact addresses, please visit our website at <http://dsm.iea.org>

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Prepared for the IEA Demand-Side Management Executive Committee
by
Morse Associates, Inc.
1808 Corcoran Street, NW
Washington, DC 20009 U.S.A.

Editor:
Sheila Blum